



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,170	12/13/2006	Young-Woo Kim	4220-127 US	1116
26817 7590 08/24/2010 MATHEWS, SHEPHERD, MCKAY, & BRUNEAU, P.A. 29 THANET ROAD, SUITE 201 PRINCETON, NJ 08540				
EXAMINER LEUBECKER, JOHN P				
ART UNIT		PAPER NUMBER		
3730				
MAIL DATE		DELIVERY MODE		
08/24/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/577,170

Applicant(s)

KIM, YOUNG-WOO

Examiner

John P. Leubecker

Art Unit

3739

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Objections

1. Claim 1 is objected to because of the following informalities: in last line, "direction" should be --directions--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilk (U.S. Pat. 5,368,015).

Referring mainly to Figures 9, 10A and 10B, Wilk discloses a stereoscopic laparoscope apparatus comprising a laparoscope (Fig.10A, col.10, lines 48-49), a computer (44, Fig.1, col.5, lines 63-68) adapted to convert and store image information of the patient's affected part inputted via the laparoscope, and a monitor (46, Fig.1) used to output the image information converted by the computer, the laparoscope comprising: a supporting unit (344,330, Fig. 10A) including a supporting rod (330) having a predetermined length and diameter; a flexible tube unit (332a,332b) including a pair of left (332a) and right (332b) flexible tubes which are driven to be spaced apart from each other within a predetermined angular range (note distance d1 in Figures 9 and 10B) installed at the tip end of the supporting unit (Fig.10B); and a pair of left and right cameras (312,314, Fig.9) installed at the tip end of the flexible tube unit (col. 11, lines 29-32) so

that they take images of the affected part in the abdominal cavity. Wilk discloses that the flexible tubes can be spaced apart using an active actuator such as a tension cable assembly (col.11, lines 21-28). Wilk clearly intends for the stereoscopic laparoscopic componentry of Figures 9-13 to be used in place of the monoscopic laparoscope (16) in Figure 1 (note col.4, lines 49-57 and col.10, lines 7-10). Thus, any actuator for driving the flexible tubes would be analogous to that exemplified by the tip bend control (36) in Figure 1, which is controlled by computer (22) via electric signals (col.5, lines 52-55). In such case, the analogous computer/switching circuit (326, Fig.10A) would anticipate a manipulator on the proximal end of the support unit and controlling the active actuator (e.g., motor) according to electric signals. As the cameras (312,314) are supported and actively spaced apart by the flexible tubes, they are adapted to take images from all directions during laparoscopic surgery.

Although support rod (330) includes of two split prongs (332a,332b) at the distal end, in would appear that the supporting rod (330) (connected proximally to the flexible tubes) is a single tube (note in Figure 10B that the support rod 330 appear to be bifurcated since the separation between the flexible tubes appears to stop at the proximal ends of the flexible tubes). Thus, Wilk fails to disclose that the supporting unit includes a pair of parallel left and right supporting rods. However, use of two parallel tubes in place of a single tube does not constitute inventive effort and thus does not distinguish over the prior art of record. One of ordinary skill in the mechanical arts would recognize that, without criticality, a single tube or two parallel tubes, both used for the same purpose (as a support unit for the laparoscope) and both providing the same functions (supporting the flexible tubes and containing elements such a wires) would be obvious over one another as a matter of choice in design. In addition, one would be motivated to

use two separate tubes for the support unit (330) of Wilk since such would provide a simpler alternative to forming a bifurcation at the distal end of a single tube, such bifurcation requiring special techniques over simply attaching two parallel tubes together. Since Applicant provides no criticality for specifying the use of two parallel tubes over use of a single tube and one of ordinary skill would have reasons for the alternative use of a single tube and two parallel tubes as discussed above, it would have been obvious to have used two parallel "support rods" in place of the single tube (330) in Wilk.

Response to Arguments

4. Applicant's arguments filed June 22, 2010 have been fully considered but they are not persuasive.

Applicant argues that "Wilk does not teach or suggest a flexible tube unit including a pair of left and right flexible tubes connected to respective left and right supporting rods" (last full paragraph of page 3). Although Wilk does indeed teach a flexible tube unit including a pair of left and right flexible tubes, it was previously recognized by the Examiner that Wilk does not explicitly teach respective left and right supporting rods. A careful reading of the Examiner's previous rejection (as reiterated above) shows that this was the basis for the rejection under 37 U.S.C. 103(a). Thus, everyone is in agreement with respect to this issue.

Applicant further argues that "Wilk does not teach or suggest that the left and right flexible tubes are driven within a predetermined angle range via an actuator according to electric signals generated from a manipulator" (last full paragraph of page 3). The Examiner respectfully disagrees as such feature was previously pointed out in the rejection. Note the difference

between Figures 10A and 10B and further note col.10, lines 33-47 in Wilk. As explained in the previous rejection, any actuator for driving a tension cable used to bend the flexible tubes apart would be analogous to that exemplified by the tip bend control (36) in Figure 1, which is controlled by computer (22) via electric signals (col.5, lines 52-55). In such case, the analogous computer/switching circuit (326, Fig.10A) would anticipate a manipulator on the proximal end of the support unit and controlling the active actuator (e.g., motor) according to electric signals. This anticipates an actuator driving the flexible tubes according to electric signals generated from a manipulator.

Although Applicant contends that the angle in Wilk "cannot be adjusted with the same precision as the adjustment of the present invention using an actuator controlled by electric signals" (last paragraph of page 3), Applicant fails to provide evidence supporting such contention. Applicant's disclosure fails to present any requisite degree of "precision" that is provided by the actuator, or, for that matter, any particular type of actuator. In fact, Applicant refers to actuator (79) as "conventional actuator 79" on page 7, line 25. If conventional, it is unclear why Applicant believes the disclosed actuator provides any more "precision" than any other actuator.

Applicant additionally argues that the flexible unit and actuator of Wilk "do not provide adjustment to take images from all directions during laparoscopic surgery as defined by the present claims". The Examiner respectfully disagrees. Applicant's specification states on page 8, lines 25-28 that:

Further, the fact that the left and right cameras 82 and 84 are respectively supported by the flexible tubes 76 and 78 enables the cameras 82 and 84 to take images from all directions exceeding four directions"

This clearly indicates that the function of taking images from all directions is attributed to the structure of the cameras being supported by the flexible tubes. Since it has been previously pointed out that Wilk explicitly disclose substantially similar flexible tubes supporting respective cameras and allowing the cameras to be spaced apart by a predetermined distance, Wilk clearly provides structure to meet the above mentioned feature.

Since Applicant has not provided any convincing arguments or evidence to obviate the obviousness rejection as set forth above, the Examiner has maintained such rejection in this Office Action.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Leubecker whose telephone number is (571) 272-4769. The examiner can normally be reached on Monday through Friday, 6:00 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John P. Leubecker/
Primary Examiner
Art Unit 3739

jpl